

1. (Original) An apparatus for incremental data storage, the apparatus comprising:
  - a baseline partition containing a baseline image;
  - an incremental log configured to store data, the incremental log comprising at least one snapshot partition; and
  - a partition module configured to automatically partition the incremental log into an additional snapshot partition in response to a snapshot operation.
2. (Original) The apparatus of claim 1, wherein the partition module is further configured to assign a volume identifier to a newly formed partition as directed by a storage management policy.
3. (Original) The apparatus of claim 1, further comprising a storage management module configured to support storage management policies selected from the group consisting of temporal-based policies, status-based policies, and event-based policies.
4. (Original) The apparatus of claim 1, further comprising a compaction module configured to compact a snapshot partition.
5. (Original) The apparatus of claim 4, wherein the compaction module is further configured to conduct compaction as directed by a storage management policy.
6. (Original) The apparatus of claim 5, wherein the storage management policy is selected from the group consisting of a temporal-based policy, a status-based policy, and an event-based policy.

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7. (Original) The apparatus of claim 4, wherein the compaction module is further configured to conduct in-place compaction.
8. (Original) The apparatus of claim 4, wherein the compaction module is further configured to automatically compact a snapshot partition to the baseline volume.
9. (Original) The apparatus of claim 1, further comprising a copy module configured to copy selected log entries to the tertiary volume.
10. (Original) The apparatus of claim 1, further comprising a read module configured to retrieve the most recent data corresponding to a block address.
11. (Currently Amended) The apparatus of ~~claim 1, wherein~~ claim 10, wherein the read module is further configured to retrieve the most recent data corresponding to a specified snapshot volume and block address.
12. (Original) An interface for managing incremental data storage, the interface comprising:  
a write function configured to append an entry to an incremental log;  
a read function configured to retrieve a most recent log entry corresponding to a block address; and  
a snapshot function configured to automatically partition the incremental log into a first and a second volume.
13. (Currently Amended) The interface of ~~claim 9, further~~ claim 12, further comprising a policy assignment function configured to assign a policy to an incremental log.

14. (Currently Amended) The interface of ~~claim 9, further~~ claim 12, further comprising a read next entry function configured to retrieve a sequential entry from the incremental log.
15. (Currently Amended) The interface of ~~claim 9, further~~ claim 12, further comprising a compact volume function configured to compact a snapshot volume.
16. (Currently Amended) The interface of ~~claim 9, further~~ claim 12, further comprising a delete volume function configured to releases a snapshot volume.
17. (Original) A method for managing incremental data storage, the method comprising:  
    appending data to an incremental log;  
    automatically partitioning the incremental log in response to a snapshot operation; and  
    automatically assigning a volume identifier to a newly formed partition.
18. (Original) The method of claim 17, wherein automatically assigning a volume identifier to a newly formed partition occurs as directed by a storage management policy.
19. (Original) The method of claim 17, further comprising conducting in-place compaction of a snapshot partition.
20. (Original) The method of claim 17, further comprising automatically compacting a snapshot partition.

21. (Original) An apparatus for managing incremental data storage, the apparatus comprising:
- means for appending data to an incremental log;
  - means for automatically partitioning the incremental log in response to a snapshot operation;
  - means for automatically assigning a volume identifier to a newly formed partition; and
  - means for conducting in-place compaction of a snapshot partition.
22. (Original) A system for redundant incremental data storage, the system comprising:
- a primary storage device configured to store data;
  - a secondary storage device configured to store data within a baseline volume and an incremental log comprising at least one snapshot partition that corresponds to a snapshot volume;
  - a controller configured to store and access data on the primary and secondary storage device; and
  - a snapshot management module configured to automatically partition the incremental log into an additional snapshot partition and associate the additional snapshot partition with a volume identifier in response to a snapshot operation.
23. (Original) The system of claim 22, wherein the snapshot management module is further configured to automatically compact a snapshot volume into the baseline volume in response to the snapshot operation.
24. (Original) The system of claim 22, wherein the snapshot management module is further configured to conduct in-place compaction of a snapshot partition.

25. (Original) The system of claim 22, wherein the primary storage device comprises a plurality of redundantly arranged storage devices.

26. (Original) A computer readable image for managing incremental data storage, the computer readable image comprising program code configured to conduct a process comprising:

append data to an incremental log;

automatically partition the incremental log in response to a snapshot operation; and

automatically assign a volume identifier to a newly formed partition.

27. (Original) The computer readable image of claim 26, wherein the process further comprises conducting in-place compaction of a snapshot partition.

28. (Original) The computer readable image of claim 26, wherein the process further comprises automatically assigning a volume identifier to a newly formed partition occurs as directed by a storage management policy.

29. (Deleted).

30. (Original) The computer readable image of claim 26, wherein the process further comprises automatically compacting a snapshot partition.